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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,503	09/12/2003	Terence Donald Deines	B301 0004	5655

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EXAMINER

NGUYEN, DANNY

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/660,503	<b>Applicant(s)</b> DEINES ET AL.	
	<b>Examiner</b> Danny Nguyen	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8 and 10-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Foreign application Priority**

1. The copies of the priority document have not been received. Applicant is requested to submit certified copies of the priority document.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "an intelligent control to trigger in claim 14" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objection***

3. Claims 1 and 8 are objected to because of the following informalities:

Claim 1, line 7, the term "two opposed conductors" should be "the two opposed conductors"; line 9, the term "insulation" should be "said insulation"; line 10, the term "said electrodes" should be "said conductors".

Claim 8, the phrase " wherein said main gap" should be "wherein said conductors". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6, 11, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen (USPN 4,625,254) in view of Flindall et al (USPN 4,912,592).

Regarding claims 1-3, 6, 11, 15 Fahlen discloses a safety device (fig. 1) comprises a precision gap (spark gap) between two electrodes (electrodes of the spark gap G) the precision gap is coupled parallel with a surge arrester (varistor R1) and a resistor (R2) in series, the surge arrester has a breakdown voltage below the breakdown voltage of the precision gap (e.g. col. 1, lines 39-57). Fahlen does not disclose a main insulated gap formed between two electrodes as claimed. Flindall

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discloses a spark gap structure (figure 1) comprises an insulated gap between two electrodes (such as gap formed by 7, 7a, and 8 between two electrodes 1, 2), wherein the insulated gap electrically separated by insulation (8) extending into a region proximate to a precision gap (1, 2, 4), whereby the precision gap flashes, the insulation is destroyed and a short circuit forms between conductors (see col. 1, lines 46-68, col. 2, lines 28-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified to spark gap of Fahlen to incorporate a spark gap with an insulated gap between two electrodes as disclosed by Flindall in order to protect the gas surge arrester from being damage due to surge voltage condition.

Regarding claim 14, Fahlen discloses a control circuit (T) to trigger the precision gap.

5. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen in view of Flindall, and E.F.W. Beck et al (USPN 2,473,850). The combination of Fahlen and Flindall disclose the gap arrester, but do not the breakdown voltage as claimed. However, providing the gap arrester has a breakdown voltage of approximately 3000 volts is well known in the art. Selecting the exact valued breakdown voltage of the gap arrester is based on the design constraints imposed by the system in which the arrester protection circuit is designed to be used. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the breakdown voltage of the gap arrester of Fahlen and Flindall to incorporate the gap arrester having a breakdown voltage of approximately of 3000 volts because this is known breakdown voltage of gap arrester as taught by Beck (col. 8 lines 3-5).

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6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen in view of Flindall, and Oertel et al (USPN 5,500,782). The combination of Fahlen and Flindall disclose the surge arrester and precision gap, but do not the rating voltage as claimed. However, providing the surge arrester has a rating voltage, which is below the rating voltage of precision arrester, is well known in the art. Selecting the rating voltage of the gap arrester and surge arrester is based on the design constraints imposed by the system in which the arrester protection circuit is designed to be used. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the rating voltage of the surge arrester and the rating voltage of gap arrester of Fahlen and Flindall to incorporate a surge arrester having a rating voltage which is lower than a rating voltage of gap arrester because this is taught by Oertel (col. 1, lines 36-60).

7. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen in view of Flindall, and Winkelmann (USPN 5,621,602). The combination of Fahlen and Flindall disclose the resistor, but do not the resistor has a value as claimed. However, Selecting the value of the resistor is based on the design constraints imposed by the system in which the arrester protection circuit is designed to be used. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the value of the resistor of Fahlen and Flindall to select the resistor having a value of 100 ohms as taught by Winkelmann (col. 1, lines 51-53).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen in view of Flindall in view of Kato. The combination of Fahlen and Flindall disclose all

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limitations of claims as discussed above, but do not disclose the conductors as claimed. Kato discloses a surge voltage protection circuit comprises a spark gap includes two conductive bars (26, 27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the conductors of Fahlen and Flindall to incorporate the conductive bars as disclosed by Kato in order to provide better conductivity.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Nguyen whose telephone number is (571)-272-2054. The examiner can normally be reached on Mon to Fri 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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8/2/2006



**BRIAN SIRCUS**  
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